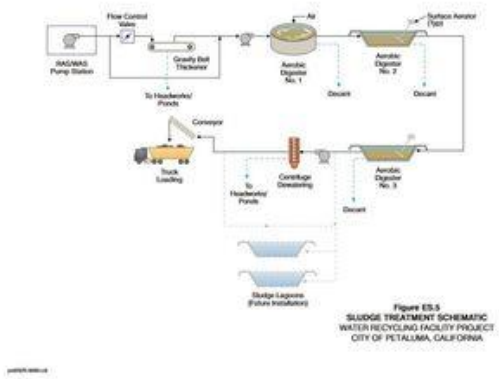
BIOMASS MAGAZINE

California Energy Commission invests $3 million in biogas project

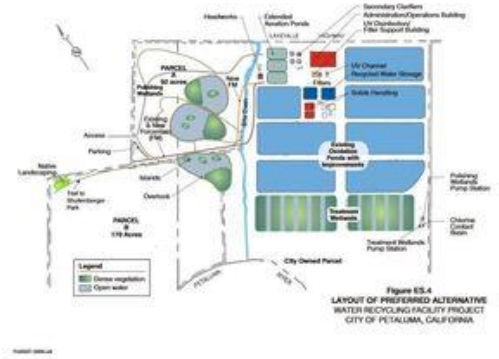
By Katie Fletcher | March 22, 2016

The California Energy Commission approved $4.3 million in grants this month for projects to increase the efficiency of natural gas technology used in industrial, agriculture and water processes. Amongst the projects receiving grants was an anaerobic digestion (AD) project in the city of Petaluma. The $3 million grant is for the design, construction and operation of an AD system at the Ellis Water Recycling Facility to produce 150,000 gasoline gallon equivalents (GGE) of renewable natural gas (RNG) made from food and beverage waste. The RNG will be used as a fuel replacement in up to 19 diesel waste hauling trucks, displacing the consumption of approximately 21,200 gallons of diesel annually associated with hauling wastes.



The city of Petaluma has received a $3 million grant from the California Energy Commission to support a biogas project at the Ellis Water Recycling Facility. The biomethane will be used to make renewable natural gas to fuel refuse trucks.

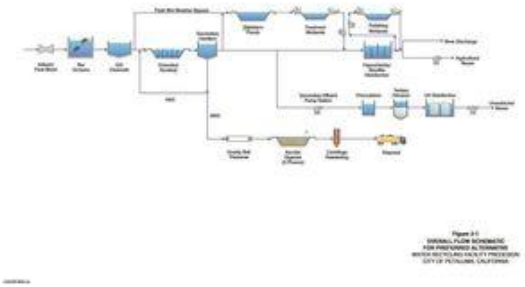
The funding is provided by the energy commission's Alternative and Renewable Fuel and Vehicle Technology Program. In addition to the $3 million contribution, the city of Petaluma will provide over $12 million in match funding. Besides the digester, the project will include a biogas purification unit, a compressed natural gas fueling station and waste treatment facility.



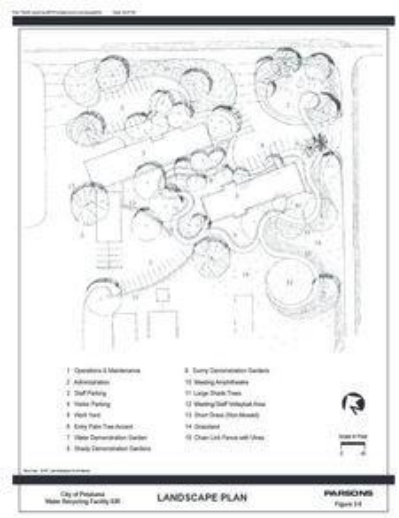
The objectives of the biomass-to-biofuels project is to process biomass locally and reduce transport of approximately 710,000 gallons per month of liquid feedstock from food and beverage

processors, improve and expand the city's wastewater treatment process ability to transform biomass to biomethane by constructing a new digester with a capacity of at least 550,000 gallons, produce at least 75,000 GGE per year of CNG with existing municipal wastewater solids, and produce at least 150,000 GGE per year of CNG with the addition of high-strength waste.

In the March 9 meeting minutes, submitted on March 17, Chi-Chung Tsao with Emerging Fuels and Technology Office of the Fuel and Transportation Division, stated that the entire project will reduce greenhouse gas emissions by roughly 3,000 metric tons of CO2 equivalents per year. The project's goal is to displace fossil fuels, as well as eliminate long-haul for waste-collection vehicles, which, according to Tsao, will significantly reduce the cost and emissions from the transportation of the waste. Other components of the project include the ability to recycle processing water for crop irrigation, and the byproducts of the process (liquid fertilizer and solid residues) will be used as an agricultural enhancement.



Dan St. John, director of public works and utilities for the city of Petaluma, commented during the March 9 meeting. He said, "We feel that the city is a unique opportunity in that we have the wastewater treatment plant and we also have responsibilities for transit, garbage collection and many things that consume diesel and gasoline, so we have that opportunity too—on top of that we are a community of food processing with high-strength waste."



Commissioner Janea Scott added that there is a low nitrogen oxide (NOx) engine that the energy commission helped fund with Southern California Gas and the South Coast Air Quality Management District, which the current standard is 0.2 grams per brake horsepower hour of NOx. Scott said that engine can do 0.01 and it's been certified at Air Resources Board. "When you combine that

with the renewable natural gas, it's pretty exciting in a space where fuel cells and batteries aren't quite there yet," Scott said. "So, I think this is an exciting project."

To learn more about the project the grant request form detailing the project's scope of work can be downloaded here.